

CLAIMS

1. A CDMA transmitting apparatus comprising:
first and second spreading sections that perform
5 spreading for signals different from each other;
first and second transmitting sections that
correspond to the first and second spreading sections
respectively and transmit the spread signals by radio;
and
10 a spreading method setting section that sets
spreading methods in the first and second spreading
sections independently.
2. The CDMA transmitting apparatus according to claim
15 1, wherein the spreading method setting section sets at
least one of a spreading factor, the number of spreading
codes, and the number of spreading codes assigned to one
transmitting party, employed in the first spreading
section, independent of the second spreading section.
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3. The CDMA transmitting apparatus according to claim
1, wherein the spreading method setting section performs
the setting based on at least one of a channel quality,
a degree of importance, and the number of retransmissions,
25 of each signal transmitted by radio from the first and
second transmitting sections.

4. The CDMA transmitting apparatus according to claim 3, wherein the spreading method setting section sets in the first spreading section a spreading method that improves reception accuracy at a receiving side, in at least one of the following cases:

the channel quality of a signal transmitted by radio from the first transmitting section is poorer than the channel quality of a signal transmitted by radio from the second transmitting section;

10 the degree of importance of the signal transmitted by radio from the first transmitting section is greater than the degree of importance of the signal transmitted by radio from the second transmitting section; and

the number of retransmissions of the signal transmitted by radio from the first transmitting section is greater than the number of retransmissions of the signal transmitted by radio from the second transmitting section.

20 5. The CDMA transmitting apparatus according to claim 4, wherein the spreading method setting section sets the spreading factor used in the first spreading section greater than the spreading factor used in the second spreading section.

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6. The CDMA transmitting apparatus according to claim 4, wherein the spreading method setting section sets the

number of spreading codes actually used in the first spreading section smaller than the number of spreading codes actually used in the second spreading section.

5 7. The CDMA transmitting apparatus according to claim
4, wherein the spreading method setting section sets the
number of spreading codes the first spreading section
assigns to one transmitting party greater than the number
of spreading codes the second spreading section assigns
10 to one transmitting party.

8. The CDMA transmitting apparatus according to claim
4, wherein, when the degree of importance of the signal
transmitted by radio from the first transmitting section
15 is greater than the degree of importance of the signal
transmitted by radio from the second transmitting section,
the signal transmitted by radio from the first
transmitting section comprises control information or
retransmission information.

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9. The CDMA transmitting apparatus according to claim
4, wherein the setting is performed for only a fixed period
of time.

25 10. The CDMA transmitting apparatus according to claim
1, further comprising an assigning section that assigns
to the first and second transmitting sections respective

transmitting parties,

wherein the spreading method setting section sets in the second spreading section a spreading method that improves reception accuracy at a receiving side greater
5 than by the first spreading section; and

wherein the assigning section assigns the transmitting party having a greater number of retransmissions than a predetermined number to the first transmitting section.

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11. The CDMA transmitting apparatus according to claim 4, wherein transmission power of the first transmitting section is set greater than transmission power of the second transmitting section.

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12. The CDMA transmitting apparatus according to claim 7, wherein the spreading method setting section applies the setting to a transmitting party having a lower channel quality than a predetermined quality.

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13. The CDMA transmitting apparatus according to claim 4, wherein, when error correction codes of the signals transmitted by radio from the first and second transmitting sections comprises a turbo code, the signal
25 transmitted by radio from the first transmitting section comprises a systematic bit.

14. The CDMA transmitting apparatus according to claim 1, wherein the signals transmitted by radio from the first and second transmitting sections are converted in multicarrier form.

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15. A CDMA receiving apparatus comprising:

first and second receiving sections that receive by radio signals in which varying signals are multiplexed;

separating section that separates the radio
10 received signals back to varying signals prior to multiplexing;

first and second despreading sections that correspond to the first and second receiving sections respectively and despread the separated signals,

15 wherein despreading methods in the first and second despreading sections are set independently based on channel quality, degree of importance, and the number of retransmissions of each signal received by radio.

20 16. A communication terminal apparatus comprising the CDMA transmitting apparatus of claim 1.

17. A base station apparatus comprising the CDMA transmitting apparatus of claim 1.

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18. A radio transmitting method comprising:

first and second spreading steps of performing

spreading for signals different from each other;

first and second transmitting steps, corresponding to the first and second spreading steps, respectively, of transmitting the spread signals by radio; and

5 a spreading method setting step of setting spreading methods in the first and second spreading steps independently.

19. A radio transmitting system comprising:

10 first and second spreading sections that perform spreading for signals different from each other;

first and second transmitting sections that correspond to the first and second spreading sections respectively and transmit the spread signals by radio;

15 and

a spreading method setting section that sets spreading methods in the first and second spreading sections independently.